

**Amendments to the Drawings:**

The attached replacement drawing sheet makes changes to Fig. 31 and replaces the original sheet with Fig. 31.

Attachment: Replacement Sheet

**REMARKS**

Claims 1-62 are pending in this application. By this Amendment, claims 1, 3, 5, 12, 20, 23-26, 34, 35 and 38-41, the specification and Fig. 31 are amended. No new matter is added.

**I. Support for the Amendments**

Support for amendments to claims 1, 3, 5, 12, 20, 25 and 26 can be found on page 5, lines 18-21. Claims 34 and 35 are amended for clarification. Claims 24, 25, and 38-41 are amended for form, and thus are not narrowing. No new matter is added.

**II. Claims 34 and 35 Satisfy the Requirements of 35 U.S.C. §112, First Paragraph**

The Office Action rejects claims 34 and 35 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement. This rejection is respectfully traversed.

The Office Action asserts that the term "barycenter" disclosed in the specification and recited in claims 34 and 35 is unclear, and more specifically it is unclear what the barycenter represents or what a barycenter is defined as. A "barycenter" may be defined as the center of a mass. See The American Heritage College Dictionary (copy attached).

Claims 34 and 35, the specification and Fig. 31 are amended to replace "barycenter" with "center of mass," which is commonly used in the picture, the display or the layout fields for clarification. Thus, for example, as shown in Fig. 33B, P1, P2 and P3 correspond to the centers of mass of information storage frames 601, 602 and 603, respectively. Thus, one of ordinary skill would have been enabled by the disclosure without undue experimentation.

Therefore, claims 34 and 35 satisfy the requirements of 35 U.S.C. §112, first paragraph. Withdrawal of the rejection is thus respectfully requested.

**III. Claims 1-16 Satisfy the Requirements of 35 U.S.C. §101**

The Office Action rejects claims 1-62 under 35 U.S.C. §101. The Office Action asserts that the claims are directed to a layout system, layout program and a layout method that appear to be claiming software systems, which is a computer program per se and are non-statutory because they are not embodied on a tangible computer-readable medium. This rejection is traversed.

Independent claims 1, 3, 5, 12, 20 and 27-34 are directed to a layout system and claims 25, 26, 40 and 41 are directed to a layout method, and thus the claims fall within two of the four enumerated categories of patentable subject matter recited in §101. These claims are not directed to functional descriptive matter, i.e., data structures and computer programs which impart functionality when employed as a computer component. Thus, these claims satisfy the requirements of 35 U.S.C. §101. See Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility.

By this Amendment, claims 24, 38 and 39, which are directed to a program, are amended to clarify that the program is recorded on a computer-recordable medium. Thus, claims 24, 38 and 39 satisfy the requirements of 35 U.S.C. §101. Withdrawal of the rejection is thus respectfully requested.

**IV. The Claims Define Patentable Subject Matter**

**A. §102(b) Rejection of Claims 1, 3, 27, 33 and 36-41 Over Templeman**

The Office Action rejects claims 1, 3, 27, 33 and 36-41 under 35 U.S.C. §102(b) over U.S. Patent No. 5,845,303 to Templeman. This rejection is respectfully traversed.

Claims 1, 3, 27, 33 and 36-41 are not anticipated by Templeman. Templeman does not disclose a layout system that includes "wherein a movable direction of the information storage frames on the layout region is set beforehand," as recited in independent claims 1 and 3. By setting the movable direction or movable region beforehand, the designer's intentions

of the layout are realized and flexibility is achieved (pg. 5, lines 18-21). By setting the movable direction beforehand for the necessary information storage frames, the information storage frames are moved along a direction intended by the designer. Hence, the designer's intention is more readily reflected on a layout. Further, because it is not necessary to set a reference line in the information storage frame, flexibility can be relatively improved for a layout (pg. 5, lines 4-25).

Templeman merely discloses a constraint system that is employed to dynamically size and position frames as data is flowed into them (col. 9, lines 1-14). The constraint system of Templeman solves each constraint relationship sequentially before the final image is displayed on a display device (col. 9, lines 15-34). However, Templeman does not disclose a setting the movable direction of the information storage frames on the layout region beforehand. Thus, Templeman does not disclose a layout system recited in independent claims 1 and 3.

Further, Templeman does not disclose "wherein the layout section forms the information storage frames into a group and is set to move at least one of the information storage frames belonging to the same group so as to have a predetermined relative positional relationship with each other," as recited in independent claim 27. Similarly, Templeman does not disclose "generating a layout by arranging a plurality of information storage frames movably on a layout region; storing listed information in information storage frames; and forming the information storage frames into a group; and setting to move the information storage frames, which belong to the same group, so as to have a relative positional relationship with each other," as recited in independent claim 38, and as similarly recited in independent claims 39-41. According to these claims, after a plurality of movable directions or plurality of movable regions are set, the layout section forms the information storage frames into a group and is set to move at least one of the information storage frames

belonging to the same group so as to have a predetermined relative positional relationship with each other.

By storing two or more pieces of related listed information in the information storage frames constituting the group, even if one of the information storage frames needs to be moved on the layout region relative to the allocated information storage frames and so on, the other information storage frames belonging to the same group are also moved at the same time, so that the relative positional relationship is not considerably changed. As a result, a desired layout is not seriously impaired, the designer's intention can be always reflected on a layout, and flexibility is increased for a layout (pg. 33, lines 9-28).

Templeman, as discussed above, merely discloses a constraint system that is employed to dynamically size and position frames as data is flowed into them (col. 9, lines 1-14). For example, in Templeman, if the header frame expands to accommodate additional data, the title frame may need to be repositioned in the Y-direction (col. 8, lines 49-67). However, Templeman does not disclose setting to move the information storage frames, which belong to the same group, so as to have a relative positional relationship with each other. Thus, Templeman does not disclose a layout system recited in independent claims 1 and 3.

Thus, for at least these reasons, independent claims 1, 3, 27 and 38-41 are patentable over Templeman. Further, claims 3, 27, 33 and 37, which variously depend from claims 1, 3 and 27, are patentable over Templeman for at least the reasons discussed above with respect to the claims 1, 3 and 27, as well as for the additional features they recite. Withdrawal of the rejection is thus respectfully requested.

**B. §102(b) Rejection of Claims 28-30 Over Sams Publishing**

The Office Action rejects claims 28-30 over 35 U.S.C. §102(b) over "Sams Teach Yourself Microsoft Publishing 2000 in 10 Minutes," to Sams Publishing. (Sams Publishing). This rejection is respectfully traversed.

Claims 28-30 are not anticipated by Sams Publishing. Sams Publishing does not disclose a layout system that arranges a plurality of information storage frames movably on a layout region and arranges the information storage frames, which belong to the same group, to a specific positional relationship, as recited in independent claims 28-30.

As discussed above, by storing two or more pieces of related listed information in the information storage frames constituting the group, even if one of the information storage frames needs to be moved on the layout region relative to the allocated information storage frames and so on, the other information storage frames belonging to the same group are also moved at the same time, so that the relative positional relationship is not considerably changed. As a result, a desired layout is not seriously impaired, the designer's intention can be always reflected on a layout, and flexibility is increased for a layout (pg. 33, lines 9-28).

Sams Publishing merely discloses an Arrange and Group Objects option a user can select to group objects together on a page (pg. 25). However, Sams Publishing does not disclose a layout system including information storage frames, which belong to the same group, to a specific positional relationship so that a layout can be generated. Thus, Sams Publishing does not disclose a layout system recited in independent claims 28-30.

Thus, for at least these reasons, claims 28-30 are patentable over Sams Publishing. Withdrawal of the rejection is thus respectfully requested.

**C. 103(a) Rejection of Claims 34, 35, 56 and 62 over Templeman**

The Office Action rejects claims 34, 35, 56 and 62 under 35 U.S.C. §103(a) over Templeman. This rejection is respectfully traversed.

Claims 34, 35, 56 and 62 would not have been rendered obvious by Templeman. Templeman does not teach or suggest a layout system that includes "a layout section for generating a layout by arranging a plurality of information storage frames movably on a layout region ... the layout section is set to displace centers of mass of the other storage

frames according to a displacement amount to maintain the predetermined relative positional relationship, so that the layout is generated," as recited in independent claim 34. Namely, Templeman does not does teach or suggest a layout system that arranges a plurality of information storage frames movably on a layout region and arranges the information storage frames, which belong to the same group, to a specific positional relationship.

With this configuration, even when an amount of listed information to be stored in the information storage frames is increased or reduced more than the originally scheduled amount and considerably changes the relative positions of the information storage frames, the predetermined relative positions can be restored with ease. Thus, it is possible to positively obtain a layout intended by the designer, e.g., "listed information has a predetermined relative positional relationship." (pg. 38, line 22 - pg. 39, line 2).

As discussed above, Templeman merely discloses a constraint system that is employed to dynamically size and position frames as data is flowed into them (col. 9, lines 1-14). For example, the constraint system of Templeman may define the relationship to maintain a fixed size border along the outside of the display as shown in Fig. 5. However, the constraint system is not based on the centers of mass of the frames. Further, nowhere does Templeman teach or suggest determining a relative positional relationship between centers of mass of the information storage frames before storing the listed information and displacing the centers of mass of the other information storage frames according to a displacement amount to maintain the predetermined relative positional relationship. Thus, Templeman does not disclose a layout system recited in independent claim 34.

Thus, claim 34 is patentable over Templeman. Further, claims 35, 56 and 62, which depend from independent claim 34, are patentable over Templeman for at least the reasons discussed above with respect to claim 34, as well as for the features they recite. Withdrawal of the rejection is thus respectfully requested.

**D. 103(a) Rejection of Claims 2, 4, 5-20 and 23-26 Over Templeman in View of Simmons**

The Office Action rejects claims 2, 4, 5-20 and 23-26 over Templeman in view of U.S. Patent Application Publication No. 2004/003350 to Simmons et al. (Simmons). This rejection is respectfully traversed.

Claims 2, 4, 5-20 and 23-26 would not have been rendered obvious by Templeman in view of Simmons. Neither of the applied references teaches or suggests "the template can set beforehand a movable direction along which the information storage frame moves on the layout region, and a movable region," as recited in independent claim 20, and similarly recited in independent claims 25 and 26. Further, neither of the applied references teaches or suggests "when the plurality of information storage frames overlap each other, the layout section is set to move the overlapping information storage frames in the movable region along the movable direction based on a setting on the movable direction and the movable region in the templates to a position where the information storage frames do not overlap with each other," as recited in independent claim 20, and as similarly recited in independent claims 23-26.

By permitting the designer to set a movable direction beforehand for the necessary information storage frames, in the case where the plurality of information storage frames overlap each other, the information storage frame is moved along the direction intended by the designer and listed information is stored in the information storage frames so that the information storage frames do not overlap each other. As a result, the designer's intention is more readily reflected on a layout and a relatively proper layout can be obtained regardless of the contents of listed information, an amount of information, and a logical structure (page 6, line 27- page 7, line 18).



As acknowledged by the Office Action, Templeman does not disclose these features. However, Simmons does not remedy Templeman's deficiencies. Simmons merely discloses moving the object in a direction that is the shorter distance for resolving the collusion between to objects, which may have occurred by increasing the size of the drawing object (paragraph [0044]). However, Simmons does not disclose moving the overlapping image storage frames in the movable region along the movable direction based on a setting on the movable direction and the movable region in the template. Thus, neither of the applied references teaches or suggests the layout system recited in independent claims 20 and 23-26.

Thus, for at least these reasons, independent claims 20 and 23-26 are patentable over Templeman and Simmons. Further, claims 2, 4, 6-11 and 13-17, which variously depend from claims 1, 5, and 12, are patentable over Templeman and Simmons at least for the reasons discussed above with respect to claims 1, 5, and 12, as well as for the additional features they recite. Withdrawal of the rejection is thus respectfully requested.

**E. 103(a) Rejection Over Claims 21, 22 and 42-45 Over Templeman, Simmons and Sams Publishing**

The Office Action rejects claims 21, 22 and 42-45 under 35 U.S.C. §103(a) over Templeman in view of Simmons and Sams Publishing. This rejection is respectfully traversed.

Claims 21, 22 and 42-45 would not have been rendered obvious by Templeman in view of Simmons and Sams Publishing. Sams Publishing does not remedy the deficiencies of Templeman and Simmons with respect to independent claims 5, 12 and 20. Sams Publishing is cited by the Office Action for only its alleged teachings of a user information storage section. Claims 21-22 depend from claim 5, claims 42 and 44 depend from claim 12 and claims 43 and 45 depend from claim 20. Thus, claims 21, 22 and 42-45 are patentable over Templeman, Simmons and Sams Publishing for at least the reasons discussed above with

respect to claims 5, 12 and 20, as well as for the additional features they recite. Withdrawal of the rejection is thus respectfully requested.

**F. 103(a) Rejection of Claims 31, 49, 54 and 60**

The Office Action rejects claims 31, 49, 54 and 60 under 35 U.S.C. §103(a) over Sams Publishing in view of Simmons and further in view of "Microsoft Publisher 2000 Complete User Guide," by Luker (Luker). This rejection is respectfully traversed.

Claims 31, 49, 54 and 60 would not have been rendered obvious by Sams Publishing in view of Simmons and further in view of Luker. None of the applied references teaches or suggests "a layout section for generating a layout by arranging a plurality of information storage frames movably on a layer region and storing listed information ... arranges the information storage frames, which belong to the same group, vertically on the layout region and is set to move some or all of the information storage frames laterally so as to align line position," as recited in independent claim 31.

As discussed above, by storing two or more pieces of related listed information in the information storage frames constituting the group, even if one of the information storage frames needs to be moved on the layout region relative to the allocated information storage frames and so on, the other information storage frames belonging to the same group are also moved at the same time, so that the relative positional relationship is not considerably changed. As a result, a desired layout is not seriously impaired, the designer's intention can be always reflected on a layout, and flexibility is increased for a layout (page 33, lines 9-28).

Sams Publishing merely discloses an Arrange and Group Objects option a user can select to group objects together on a page (see page 25). However, Sams Publishing does not disclose a layout system that the information storage frames, which belong to the same group, to a specific positional relationship so that a layout can be generated. Further, Simmons and Luker do not remedy Sams Publishing's deficiencies. Luker is cited by the Office Action for

only its alleged teaching of text, and Simmons is not cited by the Office Action for this rejection. Thus, none of the applied references teaches or suggests the layout system recited in independent claim 31.

Thus, for at least these reasons, claim 31 is patentable over Sams Publishing, Simmons and Luker. Further, claims 49, 54 and 60, which depend from claim 31, are also patentable over Sams Publishing, Simmons and Luker for at least the reasons discussed above with respect to claim 31, as well as for the additional features they recite. Withdrawal of the rejection is thus respectfully requested.

**G. 103(a) Rejection of Claim 32 Over Sams Publishing**

The Office Action rejects claim 32 under 35 U.S.C. §103(a) over Sams Publishing. This rejection is respectfully traversed.

Claim 32 would not have been rendered obvious by Sams Publishing. Sams Publishing does not teach or suggest "a layout section for generating a layout by arranging a plurality of rectangular information storage frames movably on a layout region ... wherein the layout section forms the information storage frames into a group, arranges the information storage frames, which belong to the same group, diagonally on the layout region and moves some or all of the information storage frames so as to connect corners, so that the layout is generated," as recited in independent claim 32.

As discussed above, Sams Publishing merely discloses an Arrange and Group Objects option a user can select to group objects together on a page (see page 25). However, Sams Publishing does not disclose a layout system that the information storage frames, which belong to the same group, to a specific positional relationship so that a layout can be generated. Thus, Sams Publishing does not disclose the layout system recited in independent claim 32.

Thus, for at least these reasons, claim 32 is patentable over Sams Publishing.

Withdrawal of the rejection is thus respectfully requested.

**H. 103(a) Rejection of Claims 46-48, 50-53, 55, 57-59 and 61 Over Sams Publishing in view of Templeman**

The Office Action rejects claims 46-48, 50-53, 55, 57-59 and 61 under 35 U.S.C. §103(a) over Sams Publishing in view of Templeman. This rejection is respectfully traversed.

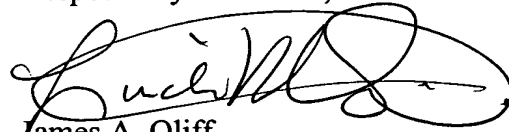
Claims 46-48, 50-53, 55, 57-59 and 61 would not have been rendered obvious by Sams Publishing in view of Templeman. Templeman does not remedy the deficiencies discussed above with respect to independent claims 28-30. Templeman is cited by the Office Action for only its alleged teaching of information storage frames. Claims 46-48, 50-53, 55, 57-59 and 61 variously depend from independent claims 28-30. Thus, claims 46-48, 50-53, 55, 57-59 and 61 are patentable over Sams Publishing and Templeman for at least the reasons discussed above with respect to claims 28-30, as well as for the additional features they recite. Withdrawal of the rejection is thus respectfully requested.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-62 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Replacement Sheet

Copy of pg. 117 from The American Heritage Dictionary

Date: May 30, 2006

**OLIFF & BERRIDGE, PLC**  
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## Barth

## base on balls



**bartizan**  
El Morro fortress,  
San Juan, Puerto Rico



**Clara Barton**



**bascule**  
a bascule bridge

ā pat	oi boy
ā pay	ou out
ār care	ōō took
ā father	ōō boot
ē pet	ū cut
ē be	ūr urge
i pit	th thin
i pie	th this
i pier	hw which
ō pot	zh vision
ō toe	ā about
ō paw	item

Stress marks:  
' (primary);  
' (secondary), as in  
lexicon (lĕk'si-kŏn')

bridge, counterbalanced so that when one end is lowered the other is raised. [Fr., seasaw: *bas*, low (< Med.Lat. *bassus*) + *cul*, bottom (< Lat. *calus*, rump; see (s)keu- in App.)]

**base**¹ (bās) *n.* 1a. The lowest or bottom part. *b.* *Biology* The part of an animal or plant organ nearest its point of attachment. 2a. A supporting part or layer; a foundation. *b.* A basic or underlying element; an infrastructure. 3. The fundamental principle or underlying concept of a system or theory; a basis. 4. A fundamental ingredient; a chief constituent: *a paint with an oil base*. 5. The fact, observation, or premise from which a reasoning process is begun. 6a. *Games* A starting point, safety area, or goal. *b.* *Baseball* Any one of the four corners of an infield, marked by a bag or plate. 7. A center of organization, supply, or activity; a headquarters. 8a. A fortified center of operations. *b.* A supply center for a large force of military personnel. 9. A facial cosmetic used to even out the complexion or provide a surface for other makeup; a foundation. 10. *Architecture* The lowest part of a structure, such as a wall, considered as a separate unit. 11. *Heraldry* The lower part of a shield. 12. *Linguistics* A morpheme or morphemes regarded as a form to which affixes or other bases may be added. 13. *Mathematics* a. The side or face of a geometric figure to which an altitude is or is thought to be drawn. *b.* The number that is raised to various powers to generate the principal counting units of a number system. *c.* The number raised to the logarithm of a designated number in order to produce that designated number. 14. A line used as a reference for measurement or computations. 15. *Chemistry* a. Any of a large class of compounds, including the hydroxides and oxides of metals, having the ability to react with acids to form salts. *b.* A substance that yields hydroxyl ions when dissolved in water. *c.* A molecular or ionic substance capable of combining with a proton to form a new substance. *d.* A substance that can donate a pair of electrons for a covalent bond with an acid. 16. *Electronics* a. The region in a transistor between the emitter and the collector. *b.* The electrode attached to this region. 17. *Biochemistry* One of the purines (adenine and guanine) or pyrimidines (cytosine, thymine, and uracil) in DNA or RNA. *adj.* 1. Forming or serving as a base: *a base layer of soil*. 2. Situated at or near the base or bottom: *a base camp*. 3. *Chemistry* Off, relating to, or containing a base. *tr.v.* *based*, *bas-ing*, *bas-es* 1. To form or provide a base for: *based the new company in Portland*. 2. To find a basis for; establish: *based her conclusions on the report*. 3. To assign to a base; station. —*idiom:* *off base* Badly mistaken. [ME < OFr. < Lat. *basis* < Gk. *see g*² in App.]

**base**² (bās) *adj.* *bas'er*, *bas'est* 1a. Having or showing a contemptible, mean-spirited, or selfish lack of human decency. *b.* Devoid of high values or ethics. *c.* Inferior in value or quality. 2. Containing inferior substances: *a base metal*. 3. *Archaic* Of low birth, rank, or position. *adj.* *Obsolete* A bass singer or voice. [ME *bas*, low < OFr. < Med.Lat. *bassus*.] —*base/ly adv.* —*base/-ness n.*

**base-ball** (bās'bŏl') *n.* 1. A game played with a bat and ball by two teams of nine players, each team playing alternately in the field and at bat, the players at bat having to run a course of four bases laid out in a diamond pattern in order to score. 2. The ball used in this game.

**base-board** (bās'bŏrd', -bŏrd') *n.* A molding that conceals the joint between an interior wall and the floor.

**base-born** (bās'bŏrn') *adj.* 1. Ignoble; contemptible. 2a. Born to unmarried parents. *b.* Of humble birth.

**base-burn'er** (bās'bŭr'nər) *n.* A coal stove with a hopper that replenishes itself from above as fuel is burned.

**base hit** *n.* *Baseball* A hit by which the batter reaches base safely without an error, fielder's choice, or force play.

**Bas-el** (bā'zəl) A city of N Switzerland on the Rhine R.; one of Europe's oldest intellectual centers. Pop. 175,781.

**base-less** (bās'līs) *adj.* Having no basis or foundation in fact.

**base level** *n.* The lowest level to which a land surface can be reduced by the action of running water.

**base line** *n.* 1a. A line serving as a basis, as for measurement. *b.* A measurement, calculation, or location used as a basis for comparison. 2. *Baseball* An area within which a base runner must stay when running between bases. 3. *Sports* The boundary line at either end of a court, as in tennis.

**base-man** (bās'mən) *n.* *Baseball* A player assigned to field at first, second, or third base.

**base-ment** (bās'mənt) *n.* 1. The substructure or foundation of a building. 2. The lowest habitable story of a building, usu. below ground level. 3. *Geology* The oldest rocks in a given area, usu. consisting of undifferentiated igneous and metamorphic rocks underlying sedimentary strata. 4. *Slang* The last place or lowest level, as in competitive standings. 5. *Chiefly New England* A public toilet, esp. one in a school. [Prob. *BASE*¹ + *-MENT* (perh. influenced by Fr. *soubassement*, subfoundation).]

**basement membrane** *n.* A thin delicate layer of connective tissue underlying the epithelium of many organs.

**bas-en-ji** (bās-sen'jē) *n., pl. -jis* A dog of a breed from Africa, having a short-reddish-brown coat and characterized by the absence of a bark. [Of Bantu orig.; akin to Tshiluba *ba-senji*, inhabitants of the hinterland: *ba-*, pl. n. pref. + *-senji*, hinterland.]

**base on balls** *n., pl. bases on balls* *Baseball* An advance to first

include *The Sot-Weed Factor* (1960).

**Barth** (bärt, bärth), Karl 1886–1968. Swiss Protestant theologian who advocated a return to the principles of the Reformation.

—*Barth/i-an adj.*

**Barthes** (bärt), Roland 1915–80. French critic who applied semiology to literary and social criticism.

**Barthol'di** (bär-thŏl'dē, -tŏl-dē'), Frédéric Auguste 1834–1904. French sculptor best known for the Statue of Liberty in New York Harbor (dedicated 1886).

**Bartho-lin's gland** (bär'tl-inz, -thə-linz) *n.* Either of two small glands located on either side of the vaginal orifice that secrete a lubricating mucus. [After Caspar Bartholin (1585–1629), Danish physician.]

**Barthol'o-mew** (bär-thŏl'a-myŏŏ'), Saint. Sometimes called Nathanael. One of the 12 Apostles, who according to tradition was martyred in Armenia.

**bar'ti-zan** (bär'ti-zan, bär'ti-zän') *n.* A small overhanging turret on a wall or tower. [Alteration of *bratticing*, timberwork < BRATTICE.] —*bar'ti-zaned adj.*

**Bar'tlett** (bär'tlit) *n.* A common variety of pear with yellowish skin and juicy flesh. [After Enoch Bartlett (1779–1860).]

**Bartlett**, John 1820–1905. Amer. publisher and editor who compiled *Familiar Quotations* (1855).

**Bar'tók** (bär'tŏk', -tŏk'), Béla 1881–1945. Hungarian pianist and composer whose works combine Eastern European folk music with dissonant harmonies. —*Bar'tók/i-an adj.*

**Bar'to-lom-me-o** (bär-tŏl'a-mä'ŏ, -tŏlŏm-mä'ŏ), Fra 1475–1517. Italian painter of the Florentine school whose works include *Madonna della Misericordia* (1515).

**Bar-ton** (bär'tn), Clara 1821–1912. Amer. administrator who did battlefield-relief work during the Civil War and organized the American Red Cross (1881).

**Bar'tram** (bär'träm), John 1699–1777. Amer. botanist who established the first botanical garden in the colonies (1728). His son William Bartram (1739–1823) was also a botanist.

**Bar'uch** (bär'ŭk, bə-rŏŭk') *n.* See table at Bible.

**Bar'uch** (bə-rŏŭk'), Bernard Mannes 1870–1965. Amer. financier, public official, and political adviser.

**bar-ware** (bär'wār') *n.* The glassware and other items used to prepare alcoholic drinks.

**bar'y-center** (bär'i-sen'tər) *n.* See center of mass. [Gk. *barus*, heavy; see *g*² *erā-* in App. + *CENTER*.]

**bar'y-on** (bär'ē-ŏn') *n.* Any of a family of subatomic particles that participate in strong interactions, are composed of three quarks, and are generally more massive than mesons. [Gk. *barus*, heavy; see *g*² *erā-* in App. + *-ON*.] —*bar'y-on'ic adj.*

**baryon number** *n.* A quantum number equal to the difference between the number of baryons and the number of antibaryons in a system of subatomic particles.

**Bar'ysh-ni-kov** (bā-rish'ni-kŏf'), Mikhail Nikolayavich b. 1948. Soviet-born ballet dancer and choreographer who performed with the Kirov Ballet in Leningrad and later with the American Ballet Theater.

**bar'y-sphere** (bär'i-sfir) *n.* See *centrosphere* 2. [Gk. *barus*, heavy; see *g*² *erā-* in App. + *SPHERE*.]

**bar'y-ta** (bā-rī'tā) *n.* Any of several barium compounds. [NLat. < Gk. *barutēs*, weight < *barus*, heavy. See *g*² *erā-* in App.]

**bar'y-tes** (bā-rī'tēz) *n.* Variant of *barite*.

**bar'y-tone** (bär'i-tŏn') *n.* 1. *Musical* Variant of *baritone*. 2. *Linguistics* A word with a heavy stress or pitch accent on its penultimate syllable.

**BAS** *abbr.* 1. Bachelor of Agricultural Science 2. Bachelor of Applied Science

**bas'al** (bā'sal, -zāl) *adj.* 1a. Of, at, relating to, or forming a base. *b.* *Botany* Located at or near the base of any plant part. 2. Of primary importance; basic. —*bas'al-ly adv.*

**basal body** *n.* A cellular organelle associated with the formation of cilia and flagella and similar to the centriole in structure.

**basal cell** *n.* *Biology* A type of cell found in the deepest layer of the epithelium.

**basal ganglion** *n.* Any of several masses of gray matter embedded in the cerebral hemispheres that are involved in the regulation of voluntary movement.

**basal granule** *n.* See *basal body*.

**basal metabolic rate** *n.* The rate at which energy is used by an organism at complete rest, measured in humans by the heat given off per unit time and expressed as the calories released per kilogram of body weight or per square meter of body surface per hour.

**basal metabolism** *n.* The minimum amount of energy required to maintain vital functions in an organism at complete rest, measured by the basal metabolic rate in a fasting individual who is awake, resting, and comfortably warm.

**ba'salt** (bā-sŏlt', bā'sŏlt') *n.* 1. A hard, dense, dark igneous rock composed chiefly of plagioclase, pyroxene, and olivine and often having a glassy appearance. 2. A kind of hard unglazed pottery. [Lat. *basaltis*, alteration of *basanitēs*, touchstone < Gk. *basanitēs* (lithos) < *basanos*, of Egypt. orig.] —*ba'salt'ic* (-sŏlt'ik) *adj.*

**BASC** *abbr.* 1. Bachelor of Agricultural Science 2. Bachelor of Applied Science

**bas'cule** (bās'kyŏl) *n.* A device or structure, such as a draw

bridge, counterbalanced so that when one end is lowered the other is raised. [Fr., seasaw: *bas*, low (< Med.Lat. *bassus*) + *cul*, bottom (< Lat. *calus*, rump; see (s)keu- in App.)]

**base**¹ (bās) *n.* 1a. The lowest or bottom part. *b.* *Biology* The part of an animal or plant organ nearest its point of attachment. 2a. A supporting part or layer; a foundation. *b.* A basic or underlying element; an infrastructure. 3. The fundamental principle or underlying concept of a system or theory; a basis. 4. A fundamental ingredient; a chief constituent: *a paint with an oil base*. 5. The fact, observation, or premise from which a reasoning process is begun. 6a. *Games* A starting point, safety area, or goal. *b.* *Baseball* Any one of the four corners of an infield, marked by a bag or plate. 7. A center of organization, supply, or activity; a headquarters. 8a. A fortified center of operations. *b.* A supply center for a large force of military personnel. 9. A facial cosmetic used to even out the complexion or provide a surface for other makeup; a foundation. 10. *Architecture* The lowest part of a structure, such as a wall, considered as a separate unit. 11. *Heraldry* The lower part of a shield. 12. *Linguistics* A morpheme or morphemes regarded as a form to which affixes or other bases may be added. 13. *Mathematics* a. The side or face of a geometric figure to which an altitude is or is thought to be drawn. *b.* The number that is raised to various powers to generate the principal counting units of a number system. *c.* The number raised to the logarithm of a designated number in order to produce that designated number. 14. A line used as a reference for measurement or computations. 15. *Chemistry* a. Any of a large class of compounds, including the hydroxides and oxides of metals, having the ability to react with acids to form salts. *b.* A substance that yields hydroxyl ions when dissolved in water. *c.* A molecular or ionic substance capable of combining with a proton to form a new substance. *d.* A substance that can donate a pair of electrons for a covalent bond with an acid. 16. *Electronics* a. The region in a transistor between the emitter and the collector. *b.* The electrode attached to this region. 17. *Biochemistry* One of the purines (adenine and guanine) or pyrimidines (cytosine, thymine, and uracil) in DNA or RNA. *adj.* 1. Forming or serving as a base: *a base layer of soil*. 2. Situated at or near the base or bottom: *a base camp*. 3. *Chemistry* Off, relating to, or containing a base. *tr.v.* *based*, *bas-ing*, *bas-es* 1. To form or provide a base for: *based the new company in Portland*. 2. To find a basis for; establish: *based her conclusions on the report*. 3. To assign to a base; station. —*idiom:* *off base* Badly mistaken. [ME < OFr. < Lat. *basis* < Gk. *see g*² in App.]

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**Bas-el** (bā'zəl) A city of N Switzerland on the Rhine R.; one of Europe's oldest intellectual centers. Pop. 175,781.

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**basement membrane** *n.* A thin delicate layer of connective tissue underlying the epithelium of many organs.

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